Small Business Innovation Research/Small Business Tech Transfer

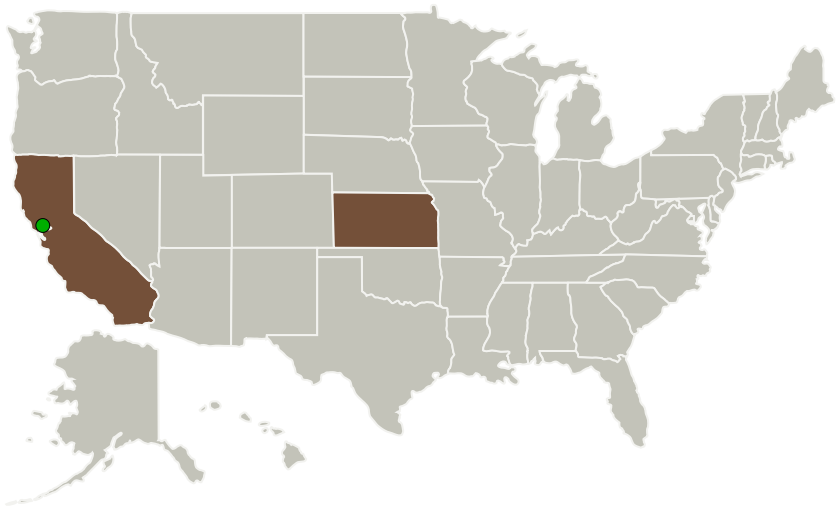
AirCore Reusable InSitu Sampler for CO2 and Trace Gas Measurements, Phase II

Completed Technology Project (2014 - 2016)

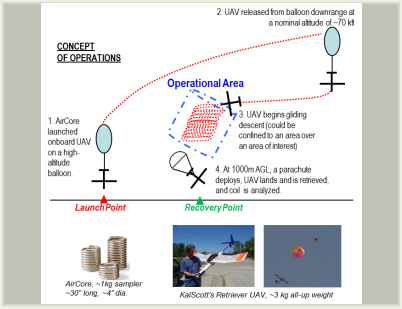
Project Introduction

A novel design for an in situ air sampling sensor for CO2 and trace gases is proposed. The sensor, named AirCore, provides the advantages of existing in situ sensors (e.g. high resolution) but eliminates possible biases in analysis that often originate from imperfect measurement condition. The AirCore provides a significant savings in cost and weight while increasing the capabilities of existing in situ sensors. The AirCore system consists of the AirCore gas sampler and the support system to accomplish its high altitude (nominally 70,000+ ft.) mission. This support system includes the sensor launch and recovery components. The AirCore can be launched and recovered by a limited crew, which reduces the operational cost of the system.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
KALSCOTT Engineering, Inc.	Lead Organization	Industry	Lawrence, Kansas
Ames Research Center(ARC)	Supporting Organization	NASA Center	Moffett Field, California



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AirCore Reusable InSitu Sampler for CO2 and Trace Gas Measurements, Phase II

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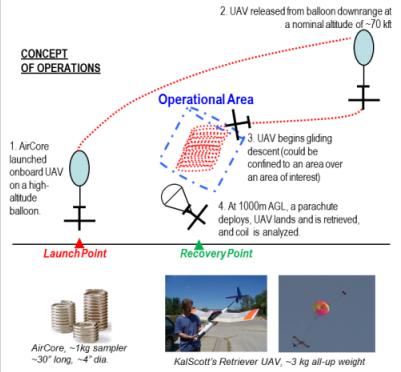
Primary U.S. Work Locations	
California	Kansas

Images



Briefing Chart Image
AirCore Reusable InSitu Sampler for CO2 and Trace Gas Measurements, Phase II *(https://techport.nasa.gov/image/130969)*

Organizational Responsibility

Responsible Mission Directorate:
Space Technology Mission Directorate (STMD)

Lead Organization:
KALSCOTT Engineering, Inc.

Responsible Program:
Small Business Innovation Research/Small Business Tech Transfer

Project Management

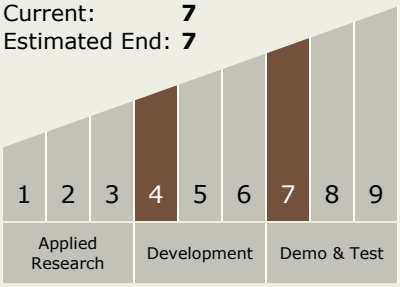
Program Director:
Jason L Kessler

Program Manager:
Carlos Torrez

Principal Investigator:
Tom Sherwood

Technology Maturity (TRL)

Start: **4**
Current: **7**
Estimated End: **7**



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Completed Technology Project (2014 - 2016)

Technology Areas

Primary:

- TX08 Sensors and Instruments
  - TX08.3 In-Situ Instruments and Sensors
    - TX08.3.4 Environment Sensors

Target Destinations

The Moon, Mars, Outside the Solar System, The Sun, Earth, Others Inside the Solar System